

NAO-0001

**REMARKS**

Claims 1-18 and 20-24 are pending in the present Application. No Claims have been amended, cancelled, or added, leaving Claims 1-18 and 20-24 for consideration upon entry of the present Amendment.

Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

**Claim Rejections Under 35 U.S.C. §103(a)**

Claims 1-11, 14-18, and 20-22 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 6,097,587 to Inagawa et al. (hereinafter "Inagawa") in view of U.S. Patent No. 5,478,670 to Hayasaka et al. (hereinafter "Hayasaka"). In addition, Claims 12-13 and 23-24 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Inagawa in view of Hayasaka as applied to Claims 1 and 21, and further in view of U.S. Patent No. 6,162,530 to Xiao et al. (hereinafter "Xiao"). Applicants respectfully traverse these rejections.

Independent Claim 1 is directed to an asymmetric supercapacitor comprising a positive electrode comprising a current collector and an active material selected from the group consisting of manganese dioxide, silver oxide, iron sulfide and mixtures thereof; a negative electrode comprising carbonaceous active material; an aqueous electrolyte solution; and a separator plate.

Independent Claim 21 is directed to an asymmetric supercapacitor comprising a positive electrode comprising a current collector and manganese dioxide; a negative electrode comprising carbonaceous active material; an aqueous electrolyte solution; and a separator plate.

According to the Office Action, Inagawa essentially discloses the limitations of the present claims (e.g., Claim 1), including a positive electrode comprising a current collector, a negative electrode comprising carbonaceous active material, an aqueous electrolyte solution, and a separator plate.

NAO-0001

The Office Action acknowledges that Inagawa does not teach that the positive electrode comprises an active material selected from the group consisting of manganese dioxide, silver oxide, iron sulfide, and mixtures thereof, and relies on Hayasaka to remedy this deficiency, citing Hayasaka at Column 6, lines 65-66. Specifically, the Examiner has stated:

**Hayasaka et al. teach a positive electrode comprising manganese dioxide (column 6, lines 24-29).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the positive electrode assembly of Sasaki substituted into Hayasaka et al., in order to increase the capacitance for the capacitor.

(Office Action, dated October 05, 2005, page 3).

Finally, Xiao is used for its disclosure of nanoscale materials, such as manganese dioxide.

Applicants respectfully traverse the above rejections. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness. The Examiner must establish that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Applicants contend that a *prima facie* case of obviousness has not been established against independent Claims 1 and 21. Specifically, neither the cited references, nor the knowledge generally available in the art at the time of the invention, provide one skilled in the art with any incentive to modify the teachings of Inagawa with those of Hayasaka to arrive at Applicants' claimed supercapacitors. In fact, Applicants assert that incentive for *not* making the combination of Inagawa and Hayasaka can be found at least in the disclosure of Hayasaka. The Examiner's attention is respectfully directed to the Specification of Hayasaka, the relevant portions of which are reproduced for convenience as shown below.

NAO-0001

Another object of the present invention is to provide a **non- aqueous electrolyte** electrochemical cell capable of operating at the highest working voltage of 2.8 V.

Still another object of the present invention is to provide a **non- aqueous electrolyte** electrochemical cell using a stainless steel of low cost for a positive electrode case.

A further object of the present invention is to provide a **non- aqueous electrolyte** electrochemical cell using a stainless steel having a pitting index between 30.5 and 45 for a positive electrode case.

(Hayasaka; Column 2, lines 5-14; emphasis added)

As described in Hayasaka, a critical or essential feature of Hayasaka is a non-aqueous electrolyte electrochemical cell. This is further verified by the title of Hayasaka, which is: "Non-Aqueous Electrolyte Electrochemical Cell Comprising High Ni Austenitic Stainless Steel Positive Electrode Case". Consequently, one of ordinary skill in the art would never consider modifying Hayasaka in such a manner so as to use an aqueous electrolyte as disclosed and claimed by Applicants. Since Inagawa is being relied upon for this particular feature, one having ordinary skill in the art would never consider making such a combination.

Additional incentive for *not* making the combination of Inagawa and Hayasaka can be found in the disclosure of Inagawa. Both Inagawa and Hayasaka concern electric double layer capacitors. However, in contrast to Applicants' supercapacitors, those disclosed by Inagawa are **symmetric**. Asymmetric and symmetric supercapacitors are markedly different in structure and in their mechanisms of operation. Throughout the specification of Inagawa, whenever the electrodes are discussed, they are referred to as "a pair". See, e.g., Column 3, at lines 22-23. There is no mention or suggestion whatsoever of the two electrodes being made from different materials. Accordingly, one of ordinary skill in the art would infer that the electrodes of Inagawa were intended to be made of the same material, and would not look to modifying only one of the pair of electrodes of the supercapacitors of Inagawa in such a way as to form the **asymmetric** supercapacitors disclosed and claimed by Applicants. Since Hayasaka is only being relied upon to teach this particular feature, one having ordinary skill in the art would never consider making such a combination.

In view of the teachings of each reference, Applicants respectfully submit that the Examiner, in arriving at this specific construction, has destroyed the intent of both references. In this regard, the

NAO-0001

courts have held that “[i]f the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon* 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The courts have also held that ‘[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.’” *In re Ratti* 270 F. 2d 810, 123 USPQ 349 (CCPA 1959).

In essence, Applicants believe that the Examiner has used an improper standard in arriving at the rejection of the above claims under section 103, based on improper hindsight, which fails to consider the totality of Applicants’ invention and to the totality of the cited references. More specifically, the Examiner has used Applicants’ disclosure to select portions of the both Inagawa and Hayasaka to allegedly arrive at Applicants’ invention. In doing so, the Examiner has failed to consider the teachings of the references or Applicants’ invention as a whole in contravention of section 103, including the disclosures of the references, which teach away from Applicants’ invention.

In view of the foregoing, reconsideration and withdrawal of the rejection applied to independent Claims 1 and 21 are requested. Given that Claims 2-18, 20, and 22-24 variably depend from these claims, they too are patentable for at least the same reasons.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

NAO-0001

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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